

TABLE OF CONTENTS

I.	JURISDICTION AND VENUE	2
II.	APPLICABILITY	3
III.	DEFINITIONS	4
IV.	CIVIL PENALTY	6
V.	COMPLIANCE REQUIREMENTS	7
VI.	SUPPLEMENTAL ENVIRONMENTAL PROJECT	13
VII.	REPORTING REQUIREMENTS	18
VIII.	STIPULATED PENALTIES	21
IX.	FORCE MAJEURE	27
X.	DISPUTE RESOLUTION	29
XI.	INFORMATION COLLECTION AND RETENTION	32
XII.	EFFECT OF SETTLEMENT/RESERVATION OF RIGHTS	34
XIII.	COSTS	35
XIV.	NOTICES	35
XV.	EFFECTIVE DATE	37
XVI.	RETENTION OF JURISDICTION	37
XVII.	MODIFICATION	37
XVIII.	TERMINATION	37
XIX.	PUBLIC PARTICIPATION	38
XX.	SIGNATORIES/SERVICE	39
XXI.	INTEGRATION	40
XXII.	FINAL JUDGMENT	40
XXIII.	APPENDICES	40

A. Plaintiff, the United States of America, on behalf of the United States Environmental Protection Agency ("EPA"), has filed a complaint in this action concurrently with the lodging of this Consent Decree, against Lucite International, Inc. ("Defendant"), for Clean Air Act ("Act") violations at its methyl methacrylate and acrylic sheeting manufacturing facility located on Fite Road in Memphis, Tennessee ("Facility").

B. The Complaint against Defendant alleges, pursuant to Section 113(b) of the Act, 42 U.S.C. § 7413(b), that Defendant, at the Facility, violated: (1) New Source Performance Standards ("NSPS") at 40 C.F.R. Part 60, Subpart H (Standards of Performance for Sulfuric Acid Plants), promulgated under Section 111 of the Act, 42 U.S.C. § 7411; (2) National Emissions Standards for Hazardous Air Pollutants (NESHAPs) at 40 C.F.R. Part 63, Subparts A (General Provisions), F and G (Synthetic Organic Chemical Manufacturing Industry Standards), promulgated under Section 112 of the Act, 42 U.S.C. § 7412; and (3) Stratospheric Ozone Protection regulations at 40 C.F.R. Part 82, Subpart F, promulgated pursuant to Section 608 of the Act, 42 U.S.C. §§ 7671g. The Complaint also alleges that Defendant violated various provisions of Defendant's permit for the Facility issued pursuant to Title V of the Act, and of Tennessee's State Implementation Plan ("SIP").

C. Defendant does not admit any liability to the United States arising out of the transactions or occurrences alleged in the Complaint.

D. The Parties recognize, and the Court by entering this Consent Decree finds, that this Consent Decree: has been negotiated by the Parties in good faith; will avoid litigation between the Parties; and is fair, reasonable, and in the public interest.

E. NOW, THEREFORE, before the taking of any testimony, without the adjudication of any issue of fact or law, and with the consent of the Parties, IT IS HEREBY ADJUDGED, ORDERED, AND DECREED as follows:

I. JURISDICTION AND VENUE

1. This Court has jurisdiction over the subject matter of this action, pursuant to 28 U.S.C. §§ 1331, 1345, and 1355, and Section 113(b) of the Act, 42 U.S.C. § 7413(b), and over the Parties. Venue lies in this District pursuant to 28 U.S.C. §§ 1391 (b) and (c) and 1395(a), and Section 113(b) of the Act, 42 U.S.C. § 7413(b), because the violations alleged in the Complaint are alleged to have occurred in, and Defendant conducts business in, this judicial district. For purposes of this Decree, or any action to enforce this Decree, the United States and Defendant consent to the Court's jurisdiction over this Decree and to venue in this judicial district, and Defendant consents to the Court's jurisdiction over Defendant.

2. For purposes of this Consent Decree, Defendant agrees that the Complaint states claims upon which relief may be granted pursuant to Sections 111, 112, 113(b), 502, and 608 of the Act.

3. Notice of the commencement of this action has been given to the State of Tennessee, as required by Section 113(b) of the Act, 42 U.S.C. § 7413(b).

II. APPLICABILITY

4. The obligations of this Consent Decree apply to and are binding upon the United States, and upon Defendant and any successors, assigns, or other entities or persons otherwise bound by law.

5. No transfer of ownership or operation of the Facility, whether in compliance with this Paragraph or otherwise, shall relieve Defendant of its obligation to ensure that the terms of the Decree are implemented. Any transfer of ownership or operation of the Facility to any other person must be conditioned upon the transferee's agreement to undertake the obligations required by this Decree, as provided in a written agreement between Defendant and the proposed transferee, enforceable by the United States as third-party beneficiary of such agreement. At least 30 days prior to such transfer, Defendant shall provide a copy of this Consent Decree to the proposed transferee and shall simultaneously provide written notice of the prospective transfer, together with a copy of the proposed written agreement, to EPA Region 4, and the United States Department of Justice, in accordance with Section XIV of this Decree (Notices). Any attempt to transfer ownership or operation of the Facility without complying with this Paragraph constitutes a violation of this Decree.

6. Defendant shall provide a copy of this Consent Decree to all officers, employees, and agents whose duties might reasonably include compliance with any provision of this Decree, as well as to any contractor retained to perform work required under this Consent Decree. Defendant shall condition any such contract upon performance of the work in conformity with the terms of this Consent Decree.

7. In any action to enforce this Consent Decree, Defendant shall not raise as a defense the failure by any of its officers, directors, employees, agents, or contractors to take any actions necessary to comply with the provisions of this Consent Decree.

III. DEFINITIONS

8. Terms used in this Consent Decree that are defined in the Act or in regulations promulgated pursuant to the Act shall have the meanings assigned to them in the Act or such regulations, unless otherwise provided in this Decree. Whenever the terms set forth below are used in this Consent Decree, the following definitions shall apply:

a. "Complaint" shall mean the complaint filed by the United States in this action;

b. "Consent Decree" or "Decree" shall mean this Decree and all appendices attached hereto (listed in Section XXIII);

c. "Day" shall mean a calendar day unless expressly stated to be a working day. In computing any period of

time under this Consent Decree, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the close of business of the next working day;

d. "Defendant" shall mean Lucite International, Inc.;

e. "EPA" shall mean the United States Environmental Protection Agency and any of its successor departments or agencies;

f. "Facility" shall mean Defendant's methyl methacrylate and acrylic sheeting manufacturing facility located on Fite Road in Memphis, Tennessee;

g. "LBS Vent" shall mean the source which vents emissions from the low boiler stripper in the methyl methacrylate production portion of the Facility, which source is identified in Defendant's Title V Permit as M-2 from Emission Group 300;

h. "Paragraph" shall mean a portion of this Decree identified by an Arabic numeral;

i. "Parties" shall mean the United States and Defendant;

j. "SAR" shall mean the sulfuric acid regeneration unit of the Facility;

k. "Section" shall mean a portion of this Decree identified by a Roman numeral;

l. "United States" shall mean the United States of America, acting on behalf of EPA;

m. "12-month rolling tonnage" shall mean the method of measuring pollutant emissions by summing the tons of pollutant in question emitted from a specified source or sources during the most recent complete month and the previous eleven (11) months. Where required, a new 12-month rolling tonnage shall be calculated for each new complete month. In calculating such amount, months which precede the lodging of the Decree shall be included, where necessary.

IV. CIVIL PENALTY

9. Within 30 days after the Effective Date of this Consent Decree, Defendant shall pay the sum of \$1,800,000 as a civil penalty, together with interest accruing from the date on which the Consent Decree is lodged with the Court, at the rate specified in 28 U.S.C. § 1961 as of the date of lodging. Payment shall be made by FedWire Electronic Funds Transfer ("EFT") to the U.S. Department of Justice in accordance with instructions to be provided to Defendant, following lodging of the Consent Decree, by the Financial Litigation Unit of the U.S. Attorney's Office for the Western District of Tennessee. At the time of payment, Defendant shall simultaneously send written notice of payment and a copy of any transmittal documentation (which should reference DOJ case number 90-5-2-1-08272 and the civil action number of this case) to the United States in accordance with Section XIV of this Decree (Notices).

10. Defendant shall not deduct the civil penalty paid under this Section in calculating its federal income tax.

V. COMPLIANCE REQUIREMENTS

11. Defendant shall, with respect to the Facility, comply with: (1) the refrigerant leak repair, testing, record-keeping, and reporting regulations at 40 C.F.R. Part 82, Subpart F, promulgated pursuant to Subchapter VI of the Act ("Stratospheric Ozone Protection"), 42 U.S.C. §§ 7671 - 7671q; (2) National Emissions Standards for Hazardous Air Pollutants at 40 C.F.R. Part 63, Subparts A (General Provisions), F and G (Synthetic Organic Chemical Manufacturing Industry Standards), promulgated under Section 112 of the Act, 42 U.S.C. § 7412; and (3) after installation and commencement of operation of a dual absorption control technology on the SAR in accordance with deadlines established pursuant to this Consent Decree, Defendant shall ensure that the SAR is operated in compliance with New Source Performance Standards at 40 C.F.R. Part 60, Subparts A (General Provisions) and H (Standards of Performance for Sulfuric Acid Plants), promulgated under Section 111 of the Act, 42 U.S.C. § 7411, with respect to the Facility.

12. Dual Absorption Control Technology on SAR.

Defendant acknowledges that the SAR is an "affected facility," as that term is used in the Standards for Performance for New Stationary Sources, 40 C.F.R. Part 60, and a "sulfuric acid production unit," as that term is used in 40 C.F.R. Part 60, Subpart H. By no later than July 1, 2006, Defendant shall complete installation and commence operation of a dual absorption control technology on the SAR, and will comply with the

requirements of 40 C.F.R. Part 60, Subparts A (General Provisions) and H (Standards of Performance for Sulfuric Acid Plants) at the SAR. The dual absorption control technology to be installed by Defendant shall comply with the parameters listed on Appendix A, attached to this Consent Decree. Defendant shall comply with all monitoring and reporting requirements applicable to "sulfuric acid production units" pursuant to 40 C.F.R. Part 60, Subparts A and H, and conduct the performance test required by 40 C.F.R. § 60.8(a), by no later than October 1, 2006. Defendant shall provide the results of the performance test to EPA in accordance with the notice requirements of this Consent Decree, in addition to its obligation to provide such results under applicable regulatory provisions. Entry of this Consent Decree and compliance with the obligations in this Paragraph 12 will satisfy the notice requirements of 40 C.F.R. § 60.7(a).

13. Actions to Prevent and Limit Flare Bypasses and Flare Downtime at LBS Vent. With respect to the LBS Vent (source M-2), Defendant shall at all times, and to the extent practicable, including periods of startup, shutdown, and malfunction, implement good air pollution control practices for minimizing emissions consistent with 40 C.F.R. 63.6(e). This shall include, but is not limited to, taking all practicable measures to prevent and limit events of flare bypass and flare downtime prior to Defendant's completion of the Supplemental Environmental Project ("SEP") described in Paragraph 17. In response to a flare bypass or flare downtime event after date of

entry of the Consent Decree, Defendant shall take, as expeditiously as possible, such interim and long-term corrective actions, if any, as are consistent with good engineering practice to minimize the likelihood of a recurrence of the root cause and all contributing causes of that event. Defendant shall take all reasonable measures to minimize emissions during each such event. Defendant shall monitor and record all flare bypass and flare downtime events, conduct a root cause analysis of each such event, and, commencing at the end of the first full month after lodging of this Decree and continuing until EPA has agreed that the Defendant has satisfactorily completed the SEP described in Paragraph 17, submit to EPA on a monthly basis (whether or not there has been a flare bypass or flare downtime event), a report which provides the following information:

- a. Date, and start and end time of each event;
- b. Description of event, including percent open of bypass valve where applicable, amount of emissions attributable to the event, and the equation for that calculation, and actions taken to minimize emissions in response to event;
- c. An analysis that sets forth the root cause and all contributing causes of the flare bypass and/or flare downtime event and analysis of measures, if any, that are available to reduce the likelihood of a recurrence of the flare bypass and/or flare downtime event resulting from the same root cause or contributing

causes. The root cause analysis shall include whether the conditions contributing to the event were present or had occurred during any previous event. If Defendant determines that corrective action(s) can be implemented to prevent recurrence of the flare bypass or flare downtime, then Defendant must include a description of the corrective action(s), and if not already completed by the time of the report, a schedule for implementing the corrective action(s) with commencement and completion dates. If Defendant concludes that corrective action cannot prevent the recurrence of a future flare bypass or flare downtime event, then Defendant must provide the basis of this conclusion;

d. Documentation of Defendant's compliance with the requirement in 40 C.F.R. § 63.6(e) to minimize emissions during each event.

After commencement of operation of the SEP, the LBS flare will become a secondary control and will be used to control emissions from the M-2 source only during startup, shutdown and malfunctions.

14. Interim Limit on Emissions from LBS Vent. From the date of lodging of the Decree, until the Defendant has completed the SEP described in Paragraph 17, Defendant shall comply with a limit on emissions attributable to LBS Vent bypasses or flare downtime equal to 30 tons per year ("tpy") of

volatile organic chemicals ("VOCs"), 8 tons per year of carbon monoxide ("CO"), 0.9 tons per year of nitrogen oxides ("NOx"), and 35 tons per year of sulfur dioxide ("SO₂"). Compliance with these limits shall be determined by calculating a 12-month rolling tonnage by summing the tons of pollutant in question emitted either through the LBS Vent bypass valve or during LBS flare downtime during the most recent complete month and the previous eleven (11) months. A new 12-month rolling tonnage of such emissions shall be calculated for each new complete month. The imposition of a limit on emissions in this Paragraph shall not affect any existing regulatory or permit-based limit on overall emissions from the LBS Vent. Any emissions which occur as a result of LBS Vent bypasses or flare downtime shall also be counted towards overall regulatory or permit-based emission limits for the LBS Vent, in accordance with the provisions of any applicable regulation or permit. Emissions that occur during a period of "malfunction," as that term is defined in 40 C.F.R. § 63.2, shall be excluded from the calculation of the 12-month rolling tonnage if Defendant provides notice of the malfunction to EPA in the monthly report required under Paragraph 13 and

- (i) Defendant specifies in such report its basis for concluding that the emissions are attributable to a malfunction,
- (ii) Defendant lists in such notice whether conditions contributing to the event were present or had occurred during any previous event, and
- (iii) EPA agrees that the event constitutes a malfunction or fails to notify Defendant, within 60 days of

receipt of Defendant's report, of its determination that the event is not a malfunction. If EPA determines that the event does not constitute a malfunction, Defendant may invoke the Dispute Resolution provisions of Section X of the Consent Decree. If Defendant prevails in such Dispute Resolution on its claim that the period is appropriately characterized as a malfunction, then the emissions occurring during such period shall be excluded from the calculation of the 12-month rolling tonnage. The listing of an event in Defendant's Start-up, Shutdown, Malfunction Plan as a malfunction shall not constitute evidence that the event meets the definition of malfunction in 40 C.F.R. § 63.2.

15. Within 60 days from the entry of this Consent Decree, Defendant shall submit to the Memphis-Shelby County Department of Health, a revised permit application for its new Title V permit for the Facility which shall propose the incorporation of the requirements of Paragraphs 12, 13, and 17 into the new Title V permit for the Facility. Defendant shall also include in such permit application a proposed condition specifying that the LBS flare shall be a secondary control only used during startup, shutdown, and malfunction once the SEP performance test specified in Appendix B has been successfully completed. In the event that Defendant halts or abandons work on the SEP described in Paragraph 17 of this Consent Decree, then the limit on emissions described in Paragraph 14 shall continue, and within 30 days, Defendant shall amend its application for a

new Title V permit to propose the incorporation of the requirements of Paragraph 14 into the new Title V permit for the Facility, or, if Defendant's new Title V permit has already been issued prior to Defendant's halting or abandonment of work on the SEP, Defendant shall submit a proposal to the Memphis-Shelby County Department of Health, to amend the new Title V permit to incorporate the requirements of Paragraph 14 into the new Title V permit.

16. Permits. Where any compliance obligation under this Section requires Defendant to obtain a federal, state, or local permit or approval, Defendant shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals. Defendant may seek relief under the provisions of Section IX of this Consent Decree (Force Majeure) for any delay in the performance of any such obligation resulting from a failure to obtain, or a delay in obtaining, any permit or approval required to fulfill such obligation, if Defendant has submitted timely and complete applications and has taken all other actions necessary to obtain all such permits or approvals.

VI. SUPPLEMENTAL ENVIRONMENTAL PROJECT

17. Defendant shall implement a Supplemental Environmental Project ("SEP"), which shall consist of the rerouting of the gas stream from both (1) the source identified as M-1 (skim tub stack) in Defendant's current Title V permit (issued in February of 2000), which is currently vented

uncontrolled to the atmosphere, and (2) the LBS Vent, which is the source identified as M-2 in Defendant's current Title V permit. These two emission sources will be rerouted pursuant to the SEP to the SAR furnaces, and the rerouting of these sources to the SAR furnaces shall be implemented and in operation by August 31, 2006. Following completion of the rerouting project, permitted emission limits from the M-1 source and M-2 source will be reduced as reflected below, and Defendant shall apply to have the rerouted configuration of the Facility identified as the control technology for these sources in the new Title V permit, and to have the below-listed reduced emission levels incorporated as emission limits in Defendant's new Title V permit for the Facility, pursuant to Paragraph 15:

<u>Pollutant</u>	<u>M-1 Current (tpy)</u>	<u>M-1 New (tpy)</u>
SO2	294.77	29.5
Sulfuric Acid Mist	5.26	0.5
CO	3070.38	307
VOCs	530.86	53.1

<u>Pollutant</u>	<u>M-2 Current (tpy)</u>	<u>M-2 New (tpy)</u>
SO2	346.72	34.7
CO	79.72	8.0
VOCs	296.53	29.7

In addition to the foregoing emission limits, Defendant's application for a new Title V permit will also propose monitoring requirements, approved by EPA prior to their inclusion in the permit application, to ensure these emission limits are met. In implementing the SEP, Defendant shall spend not less than \$1.3 million in eligible SEP costs. Eligible SEP costs include the

costs of planning and implementing the SEP, but do not include Defendant's overhead, administrative expenses, legal fees, and contractor oversight. Defendant agrees not to use eligible SEP costs in any way as, or in furtherance of, a tax deduction for Defendant or any of its affiliates, under federal, state or local law.

18. In implementing the SEP, Defendant shall comply with the project description, design, specifications, work plan, and schedule identified in Appendix B to this Consent Decree. Defendant is responsible for the satisfactory completion of the SEP in accordance with the requirements of this Decree.

"Satisfactory completion" means that Defendant shall complete the work in accordance with all work plans and specifications for the project and shall spend not less than the amount set forth in Paragraph 17, above. Defendant may use contractors or consultants in planning and implementing the SEP. Defendant shall commence operation of the SEP by August 31, 2006 and shall conduct a SEP performance test by November 30, 2006.

19. With regard to the SEP, Defendant certifies the truth and accuracy of each of the following:

a. that all cost information provided to EPA in connection with EPA's approval of the SEP is complete and accurate and represents a fair estimate of the costs necessary to implement the SEP;

b. that, as of the date of executing this Decree, Defendant is not required to perform or develop the SEP

by any federal, state, or local law or regulation and is not required to perform or develop the SEP by agreement, grant, or as injunctive relief awarded in any other action in any forum;

c. that the SEP is not a project that Defendant was planning or intending to construct, perform, or implement other than in settlement of the claims resolved in this Decree;

d. that Defendant has not received, and is not negotiating to receive, credit for the SEP in any other enforcement action; and

e. that Defendant will not receive any reimbursement for any portion of the SEP from any other person.

20. SEP Completion Report. By January 15, 2007, Defendant shall submit a SEP Completion Report to the United States, in accordance with Section XIV of this Consent Decree (Notices). The SEP Completion Report shall contain the following information:

a. a detailed description of the SEP as implemented, including as-built engineering drawings and results of the SEP performance test;

b. a description of any problems encountered in completing the SEP and the solutions thereto;

c. an itemized list of all eligible SEP costs;

d. certification that the SEP has been fully implemented pursuant to the provisions of this Decree;

e. a description of the environmental benefits

resulting from implementation of the SEP (with a quantification of the benefits and pollutant reductions, if feasible); and

f. certification that Defendant has not, and will not, deduct any SEP costs in calculating its federal, state or local income taxes.

21. EPA may, in its sole discretion, require information in addition to that described in the preceding Paragraph, in order to determine the adequacy of SEP completion or eligibility of SEP costs, and Defendant shall provide such information.

22. After receiving the SEP Completion Report, the United States shall notify Defendant whether or not Defendant has satisfactorily completed the SEP. If the SEP has not been satisfactorily completed in accordance with Appendix B, or if the amount expended on performance of the SEP is less than the amount set forth in Paragraph 17, above, Stipulated Penalties may be assessed under Section VIII of this Consent Decree.

23. Disputes concerning the satisfactory performance of the SEP and the amount of eligible SEP costs may be resolved under Section X of this Decree (Dispute Resolution). No other disputes arising under this Section shall be subject to Dispute Resolution.

24. Each submission required under this Section shall be signed by an official with knowledge of the SEP and shall bear the certification language set forth in Paragraph 29, below.

25. Any public statement, oral or written, in print,

film, or other media, made by Defendant making reference to the SEP under this Decree shall include the following language:

"This project was undertaken in connection with the settlement of an enforcement action, United States v. Lucite International, Inc., taken on behalf of the U.S. Environmental Protection Agency under the Clean Air Act."

VII. REPORTING REQUIREMENTS

26. Defendant shall submit the following reports:

a. Within 30 days after the end of each calendar-year quarter (*i.e.*, by April 30, July 30, October 30, and January 30) after lodging of this Consent Decree, until termination of this Decree pursuant to Section XVIII, Defendant shall submit to EPA Region 4 a quarterly report for the preceding quarter that shall include:

i. A narrative description of the activities that have been completed and the dates the activities were completed towards compliance with Paragraph 12 (Dual Absorption Control Technology on SAR);

ii. A narrative description of the activities that have been completed and the dates the activities were completed towards compliance with Paragraph 13 (Actions to Prevent and Limit Flare Bypasses and Flare Downtime at LBS Vent);

iii. A narrative description of the activities that have been completed and the dates the activities were completed towards compliance with Section VI (Supplemental

Environmental Project), including a summary of costs incurred since the previous report;

iv. A description of problems encountered or anticipated in implementation of this Consent Decree, together with implemented or proposed solutions;

v. The status of permit applications; operation and maintenance; and any reports to state or local agencies relating to implementation of this Consent Decree;

b. If Defendant violates, or has reason to believe that it may violate, any requirement of this Consent Decree, Defendant shall notify the United States of such violation and its likely duration, in writing, within ten working days of the day Defendant first becomes aware of the violation (or potential violation), with an explanation of the violation's likely cause and of the remedial steps taken, or to be taken, to prevent or minimize such violation. If the cause of a violation cannot be fully explained at the time the report is due, Defendant shall so state in the report. Defendant shall investigate the cause of the violation and shall then submit an amendment to the report, including a full explanation of the cause of the violation, within 30 days of the day Defendant becomes aware of the cause of the violation. Nothing in this Paragraph or the following Paragraph relieves Defendant of its obligation to provide the notice required by Section IX of this Consent Decree (Force Majeure).

27. Whenever any violation of this Consent Decree or any other event affecting Defendant's performance under this Decree, or the performance of its Facility, may pose an immediate threat to the public health or welfare or the environment, Defendant shall notify EPA orally or by electronic or facsimile transmission as soon as possible, but no later than 24 hours after Defendant first knew of, or should have known of, the violation or event. This procedure is in addition to the requirements set forth in the preceding Paragraph.

28. All reports shall be submitted to the persons designated in Section XIV of this Consent Decree (Notices), except that technical compliance-related submissions need be made only to EPA.

29. Each report submitted by Defendant under this Section shall be signed by an official of the submitting party and include the following certification:

I certify under penalty of law that I have examined and am familiar with the information submitted in this document and all attachments and that this document and its attachments were prepared either by me personally or under my direction or supervision in a manner designed to ensure that qualified and knowledgeable personnel properly gather and present the information contained therein. I further certify, based on my personal knowledge or on my inquiry of those individuals immediately responsible for obtaining the information, that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowingly and willfully submitting a materially false statement.

This certification requirement does not apply to emergency or similar notifications where compliance would be impractical.

30. The reporting requirements of this Consent Decree do not relieve Defendant of any reporting obligations required by the Clean Air Act or implementing regulations, or by any other federal, state, or local law, regulation, permit, or other requirement.

31. Any information provided pursuant to this Consent Decree may be used by the United States in any proceeding to enforce the provisions of this Consent Decree and as otherwise permitted by law.

VIII. STIPULATED PENALTIES

32. If Defendant fails to pay the civil penalty required to be paid under Section IV of this Decree (Civil Penalty) when due, Defendant shall pay a stipulated penalty of \$2,000 per day for each day that the payment is late. Late payment of the civil penalty shall be made in accordance with Section IV, Paragraph 9, above. Stipulated Penalties shall be paid in accordance with Section VIII, Paragraph 44, below. All transmittal correspondence shall state that any such payment is for late payment of the civil penalty due under this Decree, or for Stipulated Penalties for late payment, as applicable, and shall include the identifying information set forth in Paragraph 9, above.

33. Defendant shall be liable for Stipulated Penalties to the United States for violations of this Consent Decree as

specified below, unless excused under Section IX (Force Majeure). A violation includes failing to perform any obligation required by the terms of this Decree (including its Appendices), according to all applicable requirements of this Decree and within the specified time schedules established by or approved under this Decree.

34. Failure to Install Dual Absorption Control Technology on SAR. In the event that Defendant does not install dual absorption control technology on the SAR, as required by Paragraph 12 of this Consent Decree, Defendant shall pay a stipulated penalty of \$16.3 million. Closure of the facility shall not relieve Defendant of its obligation to install dual absorption control technology on the SAR or pay the stipulated penalty specified in this Paragraph.

35. Delay in Installation and Operation of Dual Absorption Control Technology on SAR. In the event that Defendant does not meet the deadlines in Paragraph 12 and Appendix A for installation and operation of dual absorption control technology, or for the completion of the performance test demonstrating compliance with 40 C.F.R. Part 60, Subparts A and H, the following Stipulated Penalties shall accrue for each day of violation:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$500	1st through 14th day
\$1,000	15th through 30th day
\$3,000	31st day and beyond

36. Violations of Requirements to Prevent and Limit Flare Bypasses or Downtime at LBS Vent.

a. In the event that Defendant does not comply with any of the requirements, other than the limit on emissions, to prevent and limit flare bypasses or flare downtime, as required by Paragraph 13 of this Consent Decree, the following Stipulated Penalties shall accrue for each day of violation:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$500	1st through 14th day
\$1,000	15th through 30th day
\$3,000	31st day and beyond

b. The following Stipulated Penalty shall apply in the event that, at the close of any month during the pendency of this Consent Decree (but before completion of the SEP required by Paragraph 17), the rolling 12-month tonnage of emissions attributable to flare bypass and flare downtime exceed, for any pollutant, the limits specified in Paragraph 14 of this Consent Decree:

\$8,000 Per Pollutant (if emissions exceed limit by less than 20%)

\$20,000 Per Pollutant (if emissions exceed limit by more than 20% but less than 50%)

\$40,000 Per Pollutant (if emissions exceed limit by more than 50%)

37. Reporting Requirements. The following Stipulated Penalties shall accrue per violation per day for each violation of the reporting requirements of Section VII of this Consent Decree:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$500	1st through 14th day
\$1,000	15th through 30th day
\$2,000	31st day and beyond

38. SEP Compliance

a. If Defendant has completed the SEP but has spent less than the amount set forth in Paragraph 17, above, Defendant shall pay a stipulated penalty equal to the difference between the amount of total eligible SEP costs incurred by Defendant and the amount set forth in Paragraph 17.

b. If Defendant halts or abandons work on the SEP, the Defendant shall (1) pay a stipulated penalty of \$1.3 million, in addition to any penalties required under Subparagraph c, below, for milestones missed up to the time that the penalty under this Subparagraph accrues; and (2) file an amended permit application as described in Paragraph 15. The penalty under this Subparagraph shall accrue as of the date performance ceases.

c. If Defendant fails to comply with the schedule in Section VI and Appendix B of this Consent Decree for implementing the SEP, Defendant shall pay Stipulated Penalties for each failure to meet an applicable milestone, as follows:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$500	1st through 14th day
\$1,000	15th through 30th day
\$3,000	31st day and beyond

Such penalties shall accrue from the date Defendant was required to meet each such milestone, until compliance with the milestone is achieved.

d. If Defendant fails to comply with the requirements under Paragraph 25 regarding public statements related to the SEP, Defendant shall issue a retraction in the same or similar medium as the original statement, and pay a stipulated penalty of \$10,000 for each violation.

39. The following Stipulated Penalties shall accrue for any other violation of this Consent Decree for which a stipulated penalty is not specified elsewhere in this Consent Decree:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$100	1st through 14th day
\$200	15th through 30th day
\$500	31st day and beyond

40. Subject to the provisions of Paragraph 38, above, Stipulated Penalties under this Section shall begin to accrue on the day after performance is due or on the day a violation occurs, whichever is applicable, and shall continue to accrue until performance is satisfactorily completed or until the violation ceases. Stipulated Penalties shall accrue simultaneously for separate violations of this Consent Decree. Defendant shall pay any Stipulated Penalty within 30 days of receiving the United States' written demand.

41. The United States may, in its sole discretion, reduce or waive Stipulated Penalties otherwise due it under this Consent Decree.

42. Stipulated Penalties shall continue to accrue as provided in Paragraph 40, above, during Dispute Resolution, but need not be paid until the following:

a. If the dispute is resolved by agreement or by a decision of EPA that is not appealed to the Court, Defendant shall pay accrued penalties determined to be owing, together with interest, to the United States within 30 days of the effective date of the agreement or the receipt of EPA's decision or order.

b. If the dispute is appealed to the Court and the United States prevails in whole or in part, Defendant shall pay all accrued penalties determined by the Court to be owing, together with interest, within 60 days of receiving the Court's decision or order, except as provided in Subparagraph c, below.

c. If any Party appeals the District Court's decision, Defendant shall pay all accrued penalties determined to be owing, together with interest, within 15 days of receiving the final appellate court decision.

43. Defendant shall be subject to Stipulated Penalties for violations of interim emission limits occurring between the date of lodging and the Effective Date of this Consent Decree.

44. Defendant shall, as directed by the United States in its demand, pay Stipulated Penalties owing to the United States by EFT in accordance with Section IV, Paragraph 9, above

or by certified or cashier's check in the amount due, payable to the "U.S. Department of Justice," referencing DOJ No. 90-5-2-1-08272 and United States Attorney's Office file number 2005Z00369, and delivered to the United States Attorneys Office, Western District of Tennessee, Financial Litigation Unit, 200 Jefferson Ave., Suite 811, Memphis, TN 38103.

45. Defendant shall not deduct Stipulated Penalties paid under this Section in calculating its federal income tax.

46. If Defendant fails to pay Stipulated Penalties according to the terms of this Consent Decree, Defendant shall be liable for interest on such penalties, as provided for in 28 U.S.C. § 1961, accruing as of the date payment became due.

47. Subject to the provisions of Section XII of this Consent Decree (Effect of Settlement/Reservation of Rights), the Stipulated Penalties provided for in this Consent Decree shall be in addition to any other rights, remedies, or sanctions available to the United States for Defendant's violation of this Consent Decree or applicable law. Where a violation of this Consent Decree is also a violation of relevant statutory or regulatory requirements, Defendant shall be allowed a credit, for any Stipulated Penalties paid, against any statutory penalties imposed for such violation.

IX. FORCE MAJEURE

48. A "force majeure event" is any event beyond the control of Defendant, its contractors, or any entity controlled by Defendant that delays the performance of any obligation under

this Consent Decree despite Defendant's best efforts to fulfill the obligation. "Best efforts" includes anticipating any potential force majeure event and addressing the effects of any such event (a) as it is occurring and (b) after it has occurred, to prevent or minimize any resulting delay to the greatest extent possible. "Force Majeure" does not include Defendant's financial inability to perform any obligation under this Consent Decree.

49. Defendant shall provide notice orally or by electronic or facsimile transmission as soon as possible, but not later than 72 hours after the time Defendant first knew of, or by the exercise of due diligence, should have known of, a claimed force majeure event. Defendant shall also provide written notice, as provided in Section XIV of this Consent Decree (Notices), within seven days of the time Defendant first knew of, or by the exercise of due diligence, should have known of, the event. The notice shall state the anticipated duration of any delay; its cause(s); Defendant's past and proposed actions to prevent or minimize any delay; a schedule for carrying out those actions; and Defendant's rationale for attributing any delay to a force majeure event. Failure to provide oral and written notice as required by this Paragraph shall preclude Defendant from asserting any claim of force majeure.

50. If the United States agrees that a force majeure event has occurred, the United States may agree to extend the time for Defendant to perform the affected requirements for the time necessary to complete those obligations. An extension of

time to perform the obligations affected by a force majeure event shall not, by itself, extend the time to perform any other obligation. Where the United States agrees to an extension of time, the appropriate modification shall be made pursuant to Section XVII of this Consent Decree (Modification).

51. If the United States does not agree that a force majeure event has occurred, or does not agree to the extension of time sought by Defendant, the United States' position shall be binding, unless Defendant invokes Dispute Resolution under Section X of this Consent Decree. In any such dispute, Defendant bears the burden of proving, by a preponderance of the evidence, that each claimed force majeure event is a force majeure event, that Defendant gave the notice required by Paragraph 49, that the force majeure event caused any delay Defendant claims was attributable to that event, and that Defendant exercised best efforts to prevent or minimize any delay caused by the event.

X. DISPUTE RESOLUTION

52. Unless otherwise expressly provided for in this Consent Decree, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve disputes arising under or with respect to this Consent Decree. Defendant's failure to seek resolution of a dispute under this Section shall preclude Defendant from raising any such issue as a defense to an action by the United States to enforce any obligation of Defendant arising under this Decree.

53. Informal Dispute Resolution. Any dispute subject to Dispute Resolution under this Consent Decree shall first be the subject of informal negotiations. The dispute shall be considered to have arisen when Defendant sends the United States a written Notice of Dispute. Such Notice of Dispute shall state clearly the matter in dispute. The period of informal negotiations shall not exceed 20 days from the date the dispute arises, unless that period is modified by written agreement. If the Parties cannot resolve a dispute by informal negotiations, then the position advanced by the United States shall be considered binding unless, within 20 days after the conclusion of the informal negotiation period, Defendant invokes formal dispute resolution procedures as set forth below.

54. Formal Dispute Resolution. Defendant shall invoke formal dispute resolution procedures, within the time period provided in the preceding Paragraph, by serving on the United States a written Statement of Position regarding the matter in dispute. The Statement of Position shall include, but may not necessarily be limited to, any factual data, analysis, or opinion supporting Defendant's position and any supporting documentation relied upon by Defendant.

55. The United States shall serve its Statement of Position within 45 days of receipt of Defendant's Statement of Position. The United States' Statement of Position shall include, but may not necessarily be limited to, any factual data, analysis, or opinion supporting that position and any supporting

documentation relied upon by the United States. The United States' Statement of Position shall be binding on Defendant, unless Defendant files a motion for judicial review of the dispute in accordance with the following Paragraph.

56. Defendant may seek judicial review of the dispute by filing with the Court and serving on the United States, in accordance with Section XIV of this Consent Decree (Notices), a motion requesting judicial resolution of the dispute. The motion must be filed within 10 days of receipt of the United States' Statement of Position pursuant to the preceding Paragraph. The motion shall contain a written statement of Defendant's position on the matter in dispute, including any supporting factual data, analysis, opinion, or documentation, and shall set forth the relief requested and any schedule within which the dispute must be resolved for orderly implementation of the Consent Decree.

57. The United States shall respond to Defendant's motion within the time period allowed by the Local Rules of this Court. Defendant may file a reply memorandum, to the extent permitted by the Local Rules.

58. In any dispute brought under Paragraph 56, Defendant shall bear the burden of demonstrating that its position clearly complies with this Consent Decree and the Clean Air Act and that Defendant is entitled to relief under applicable law. The United States reserves the right to argue that its position is reviewable only on the administrative record and must

be upheld unless arbitrary and capricious or otherwise not in accordance with law.

59. The invocation of dispute resolution procedures under this Section shall not, by itself, extend, postpone, or affect in any way any obligation of Defendant under this Consent Decree, unless and until final resolution of the dispute so provides. Stipulated Penalties with respect to the disputed matter shall continue to accrue from the first day of noncompliance, but payment shall be stayed pending resolution of the dispute as provided in Paragraph 42, above. If Defendant does not prevail on the disputed issue, Stipulated Penalties shall be assessed and paid as provided in Section VIII (Stipulated Penalties).

XI. INFORMATION COLLECTION AND RETENTION

60. The United States and its representatives, including attorneys, contractors, and consultants, shall have the right of entry into any facility covered by this Consent Decree, at all reasonable times, upon presentation of credentials, to:

a. monitor the progress of activities required under this Consent Decree;

b. verify any data or information submitted to the United States in accordance with the terms of this Consent Decree;

c. obtain documentary evidence, including photographs and similar data; and

d. assess Defendant's compliance with this Consent Decree.

61. Until five years after the termination of this Consent Decree, Defendant shall retain, and shall instruct its contractors and agents to preserve, all non-identical copies of all documents, records, or other information (including documents, records, or other information in electronic form) in its or its contractors' or agents' possession or control, or that come into its or its contractors' or agents' possession or control, and that relates in any manner to Defendant's performance of its obligations under this Consent Decree. This information-retention requirement shall apply regardless of any contrary corporate or institutional policies or procedures. At any time during this information-retention period, the United States may request copies of any documents, records, or other information required to be maintained under this Paragraph.

62. Defendant may also assert that information required to be provided under this Section is protected as Confidential Business Information ("CBI") under 40 C.F.R. Part 2. As to any information that Defendant seeks to protect as CBI, Defendant shall follow the procedures set forth in 40 C.F.R. Part 2.

63. This Consent Decree in no way limits or affects any right of entry and inspection, or any right to obtain information, held by the United States pursuant to applicable federal laws, regulations, or permits, nor does it limit or

affect any duty or obligation of Defendant to maintain documents, records, or other information imposed by applicable federal or state laws, regulations, or permits.

XII. EFFECT OF SETTLEMENT/RESERVATION OF RIGHTS

64. This Consent Decree resolves the civil claims of the United States for the violations alleged in the Complaint filed in this action through the date of lodging.

65. The United States reserves all legal and equitable remedies available to enforce the provisions of this Consent Decree, except as expressly stated in Paragraph 64. This Consent Decree shall not be construed to limit the rights of the United States to obtain penalties or injunctive relief under the Act or implementing regulations, or under other federal laws, regulations, or permit conditions, except as expressly specified in Paragraph 64.

66. This Consent Decree is not a permit, or a modification of any permit, under any federal, state, or local laws or regulations. Defendant is responsible for achieving and maintaining complete compliance with all applicable federal, state, and local laws, regulations, and permits; and Defendant's compliance with this Consent Decree shall be no defense to any action commenced pursuant to any such laws, regulations, or permits. The United States does not, by its consent to the entry of this Consent Decree, warrant or aver in any manner that Defendant's compliance with any aspect of this Consent Decree will result in compliance with provisions of the Act, 42 U.S.C.

§ 7401 et seq., or with any other provisions of federal, state, or local laws, regulations, or permits.

67. This Consent Decree does not limit or affect the rights of Defendant or of the United States against any third parties, not party to this Consent Decree, nor does it limit the rights of third parties, not party to this Consent Decree, against Defendant, except as otherwise provided by law.

68. This Consent Decree shall not be construed to create rights in, or grant any cause of action to, any third party not party to this Consent Decree.

XIII. COSTS

69. The Parties shall bear their own costs of this action, including attorneys' fees, except that the United States shall be entitled to collect the costs (including attorneys' fees) incurred in any action necessary to collect any portion of the civil penalty or any Stipulated Penalties due but not paid by Defendant.

XIV. NOTICES

70. Unless otherwise specified herein, whenever notifications, submissions, or communications are required by this Consent Decree, they shall be made in writing and addressed as follows:

To the United States:

Chief, Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
Box 7611 Ben Franklin Station
Washington, D.C. 20044-7611
Re: DOJ No. 90-5-2-1-08272

and

Beverly Spagg, Chief
Air and EPCRA Enforcement Branch
U.S. Environmental Protection Agency, Region 4
Atlanta Federal Center
61 Forsyth Street, S.W.
Atlanta, GA 30303

To EPA:

Beverly Spagg, Chief
Air and EPCRA Enforcement Branch
U.S. Environmental Protection Agency, Region 4
Atlanta Federal Center
61 Forsyth Street, S.W.
Atlanta, GA 30303

To Defendant:

Marney Gillmore
Site Manager
Lucite International, Inc.
2665 Fite Road
Memphis, TN 38127

and

Lee A. DeHihns, III
Alston & Bird LLP
1201 West Peachtree Street
Atlanta, GA 30309-3424

71. Any Party may, by written notice to the other Parties, change its designated notice recipient or notice address provided above.

72. Notices submitted pursuant to this Section shall be deemed submitted upon mailing, unless otherwise provided in this Consent Decree or by mutual agreement of the Parties in writing.

XV. EFFECTIVE DATE

73. The Effective Date of this Consent Decree shall be the date upon which this Consent Decree is entered by the Court.

XVI. RETENTION OF JURISDICTION

74. The Court shall retain jurisdiction over this case until termination of this Consent Decree, for the purpose of resolving disputes arising under this Decree or entering orders modifying this Decree, pursuant to Sections X and XVII, or effectuating or enforcing compliance with the terms of this Decree.

XVII. MODIFICATION

75. The terms of this Consent Decree may be modified only by a subsequent written agreement signed by all the Parties. Where the modification constitutes a material change to any term of this Decree, it shall be effective only upon approval by the Court. The terms and schedules contained in Appendices A and B of this Decree may be modified upon written agreement of the Parties without Court approval, unless any such modification effects a material change to the terms of this Consent Decree or materially affects the Defendant's ability to meet the requirements or objectives of this Decree.

XVIII. TERMINATION

76. This Consent Decree may be terminated when the United States determines that Defendant has satisfactorily completed performance of its compliance and SEP obligations required by this Decree, provided that Defendant has fulfilled

all other obligations of this Decree, including payment of the civil penalty under Section IV of this Decree and any outstanding Stipulated Penalties under Section VIII. The Parties shall file with the Court an appropriate stipulation reciting that the requirements of the Consent Decree have been met. Defendant may serve upon the United States a Request for Termination, stating that Defendant has satisfied those requirements, together with all necessary supporting documentation.

77. Following receipt by the United States of Defendant's Request for Termination, the Parties shall confer informally concerning the Request and any disagreement that the Parties may have as to whether Defendant has satisfactorily complied with the requirements for termination of this Consent Decree. If the United States agrees that the Decree may be terminated, the Parties shall submit, for the Court's approval, a joint stipulation terminating the Decree.

78. If the United States does not agree that the Decree may be terminated, Defendant may invoke Dispute Resolution under Section X of this Decree. However, Defendant shall not seek Dispute Resolution of any dispute regarding termination, under Paragraph 54 of Section X, until 60 days after service of its Request for Termination.

XIX. PUBLIC PARTICIPATION

79. This Consent Decree shall be lodged with the Court for a period of not less than 30 days for public notice and comment in accordance with 28 C.F.R. § 50.7. The United States

reserves the right to withdraw or withhold its consent if the comments regarding the Consent Decree disclose facts or considerations indicating that the Consent Decree is inappropriate, improper, or inadequate.

XX. SIGNATORIES/SERVICE

80. Each undersigned representative of Defendant, EPA, and the Assistant Attorney General for the Environment and Natural Resources Division of the Department of Justice certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Decree and to execute and legally bind the Party he or she represents to this document.

81. This Consent Decree may be signed in counterparts, and its validity shall not be challenged on that basis.

82. Defendant consents to entry of this Consent Decree without further notice, and agrees not to withdraw from or oppose entry of the Decree, or challenge any provision of the Decree, unless the United States has notified Defendant in writing that it no longer supports entry of the Decree because the public comments regarding the Consent Decree disclose facts or considerations indicating that the Consent Decree is inappropriate, improper, or inadequate.

83. Defendant agrees to accept service of process by mail with respect to all matters arising under or relating to this Consent Decree and to waive the formal service requirements set forth in Rules 4 and 5 of the Federal Rules of Civil

Procedure and any applicable Local Rules of this Court including, but not limited to, service of a summons.

XXI. INTEGRATION

84. This Consent Decree and its Appendices constitute the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement embodied in the Decree and supersede all prior agreements and understandings, whether oral or written, concerning the settlement embodied herein. Other than the Appendices, which are attached to and incorporated in this Decree, no other document, nor any representation, inducement, agreement, understanding, or promise, constitutes any part of this Decree or the settlement it represents, nor shall it be used in construing the terms of this Decree.

XXII. FINAL JUDGMENT

85. Upon approval and entry of this Consent Decree by the Court, this Consent Decree shall constitute a final judgment of the Court as to the United States and Defendant. The Court finds that there is no just reason for delay and therefore enters this judgment as a final judgment under Fed. R. Civ. P. 54 and 58.

XXIII. APPENDICES

86. The following appendices are attached to and incorporated into this Consent Decree:

"Appendix A" is the Work Plan for the installation of the dual absorption control technology for the SAR, as required

by Paragraph 12 of this Consent Decree. Appendix A includes details of the type, capacity, location of installation, schedule for construction, and control efficiency, design, and specifications, for the dual absorption control device;

"Appendix B" is the SEP Work Plan, which describes the SEP project in detail, and includes project design and specifications, a performance test, and a schedule for project milestones.

Dated and entered this ____ day of _____, 200__.

UNITED STATES DISTRICT JUDGE
Western District of Tennessee

In United States v. Lucite International, Inc. (W.D. TN)
FOR PLAINTIFF UNITED STATES OF AMERICA:

Kelly A. Johnson
Acting Assistant Attorney General
Environment and Natural Resources
Division
U.S. Department of Justice
Washington, D.C. 20530

Valerie K. Mann
Trial Attorney
Environmental Enforcement Section
Environment & Natural Resources
Division
U.S. Department of Justice
P.O. Box 7611
Washington, D.C. 20044-7611

In United States v. Lucite International, Inc. (W.D. TN)
FOR PLAINTIFF UNITED STATES OF AMERICA (continued):

Lawrence J. Laurenzi
Acting United States Attorney

By _____
William W. Siler (BPR No. 007194)
Assistant U. S. Attorney
167 North Main St., Suite 800
Memphis, TN 38103

In United States v. Lucite International, Inc. (W.D. TN)
FOR PLAINTIFF UNITED STATES OF AMERICA (continued):

J. I. Palmer, Jr.
Regional Administrator
U.S. Environmental Protection Agency,
Region 4
Atlanta Federal Center
61 Forsyth Street, S.W.
Atlanta, Georgia 30303

OF COUNSEL:
Paul Schwartz
Associate Regional Counsel
Office of Environmental Accountability
U.S. Environmental Protection Agency, Region 4
Atlanta Federal Center
61 Forsyth Street, S.W.
Atlanta, Georgia 30303

In United States v. Lucite International, Inc. (W.D. TN)
FOR PLAINTIFF UNITED STATES OF AMERICA (continued):

~~G~~anta ~~V~~. Nakayama
Assistant Administrator
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
Washington, D.C.

OF COUNSEL:

Teresa Dykes
Office of Enforcement And Compliance Assurance
U.S. Environmental Protection Agency
1200 Pennsylvania Ave, NW (MC 2242A)
Washington, D.C. 20460

In United States v. Lucite International, Inc. (W.D. TN)
FOR DEFENDANT LUCITE INTERNATIONAL, INC.:

DATE: 8/22/05

Keith Rogers
Manufacturing Director Monomers
Lucite International, Inc.
6350 North Twin City Highway
Nederland, TX 77627

Lee A. DeHihns, III
Ryan Van Meter
Alston & Bird LLP
1201 West Peachtree Street
Atlanta, GA 30309-3424

Appendix A

The Sulfuric Acid Regeneration (SAR) Dual Absorption Project converts the existing Single Absorption SAR Plant located in Memphis, Tennessee to Dual Absorption to meet the requirements of New Source Performance Standards at 40 C.F.R. Part 60, Subpart H (Standards of Performance for Sulfuric Acid Plants).

Type:

The design of the Dual Absorption system is provided by Aker-Kvaerner Chemetics. The design utilizes a 3 – 1 Converter orientation where the process gases are removed after the third catalytic bed of the Converter to absorb in water the sulfur trioxide (SO_3) generated to form sulfuric acid (H_2SO_4). This increases the overall conversion attainable by shifting the equilibrium for the conversion reaction between sulfur dioxide (SO_2) and oxygen (O_2) which produces SO_3 ($\text{SO}_2 + \frac{1}{2}\text{O}_2 + \text{catalyst} \leftrightarrow \text{SO}_3$). The process gases are then re-introduced into the fourth Converter bed to achieve the 99.69% conversion required to comply with the 4.0 lb SO_2 /ton 100% H_2SO_4 . Compliance with the mist and opacity limits is achieved utilizing high efficiency mist eliminators in the Interpass and Final Absorbing Towers. The mist eliminators employ Brownian diffusion to achieve the mist removal required to comply with the limits. Both sets of mist eliminators have mist removal efficiencies of 100% above 3 microns and 98% below 1 micron.

Specifications:

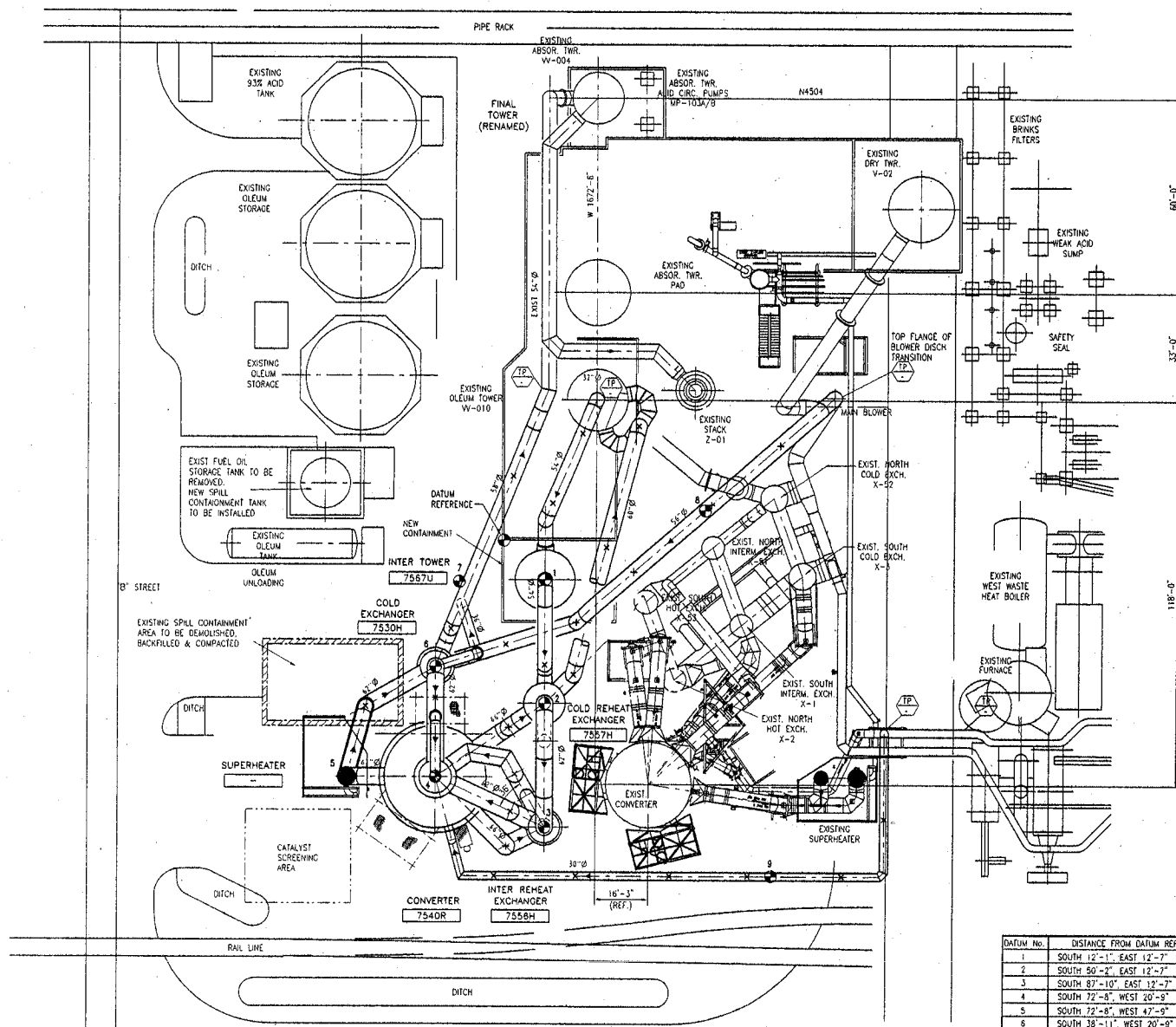
Capacity	750 short tons/day as 100% H_2SO_4
SO_2	4.0 lb/ton 100% H_2SO_4
H_2SO_4 Mist	0.15 lb/ton 100% H_2SO_4
Opacity	10%
Conversion Efficiency	99.69%

Location of Installation:

The Dual Absorption facilities will be installed on the existing grounds of the Lucite Fite Rd SAR Plant in Memphis, TN. A layout drawing showing the specific equipment locations is included for reference.

Schedule for Construction:

- | | |
|-------------------|-------------------------------------|
| • August 31, 2005 | Pre-Shutdown Construction Start |
| • April 30, 2006 | Shutdown Tie-ins Start |
| • May 31, 2006 | Shutdown Tie-ins Complete |
| • June 15, 2006 | Construction Complete/Commissioning |
| • July 1, 2006 | Commence Operation |
| • October 1, 2006 | Compliance Testing |



REV.	DATE	STATUS	BY	CHK.	APP.
A		PROPOSAL			
B	APR 14/05	GENERAL REVISION	UC		
C	APR 14/05	DATUM ADDED	B.A.	J.S.	
D	MAY 5/05	ISSUED FOR INFORMATION ONLY	B.A.		
E	MAY 5/05	ISSUED FOR INFORMATION	B.A.		
F	14 JUN 05	ISSUED FOR OWNER REVIEW (COPYRIGHT STATEMENT DELETED)	B.A.		

NOTES:
* PRELIMINARY SUPPORT LOCATION

PRELIMINARY

CHEMETICS
A Division of Axar Kvaerner Canada Inc.
Vancouver, Canada

SCALE: 1/16"=1'-0"

DATE: 20 JAN 05

DRAWN BY: K. TABBERT

CHECKED BY: DATE: -

DESIGNED BY: DATE: -

LUCITE INTERNATIONAL

MEMPHIS TENNESSEE

DOUBLE ABSORPTION CONVERSION PLANT LAYOUT OPTION 1

DOCUMENT NUMBER: 04W17901-4-CAD-7501

SHEET: F

REV: F

DATUM NO.	DISTANCE FROM DATUM REFERENCE POINT	EQUIPMENT
1	SOUTH 12'-1", EAST 12'-7"	INTER TOWER
2	SOUTH 50'-2", EAST 12'-7"	COLD REHEAT EXCHANGER
3	SOUTH 87'-10", EAST 12'-7"	INTER REHEAT EXCHANGER
4	SOUTH 72'-8", WEST 20'-8"	CONVERTER
5	SOUTH 72'-8", WEST 47'-9"	SUPERHEATER
6	SOUTH 38'-11", WEST 20'-8"	COLD EXCHANGER
7	SOUTH 12'-5", WEST 13'-8"	SLUMP
8	NORTH 9'-3", EAST 61'-8"	DUCTING
9	SOUTH 102'-7", EAST 82'-3"	DUCTING

Appendix B

SEP Project Description:

This project will route two gas streams to the Sulfuric Acid Regeneration (SAR) Plant via a pipeline: the Low Boiler Stripper (LBS) vent gas currently routed to the M-2 Stack and the streams currently routed to the M-1 Stack. These gases will be combusted in the SAR Plant's two spent acid combustion furnaces at a temperature of 1050 C with excess oxygen. Under these conditions, the Volatile Organic Compounds (VOC's) and carbon monoxide (CO) in vent gas streams will be oxidized and exit through the Plant's SA-1 stack. The sulfur dioxide (SO₂) in the streams will be converted to sulfuric acid for use in the Methylmethacrylate (MMA) Plant.

Currently, the streams to the M-1 Stack (Amide Reactor, Amide Converter and Afterboiler Condenser vent gases) are unabated. The LBS vent gas is destructed at 98% efficiency in the M-2 Flare. During Start-up/Shutdown/Malfunction (SSMP) conditions, the LBS vent gas is routed to an atmospheric vent line. Following the implementation of the Supplemental Environmental Project (SEP), the M-1 Stack and M-2 Flare will be used only during SSMP conditions. The LBS atmospheric vent line will be locked closed. The high operating utility of SAR will reduce the yearly emissions of pollutants from the MMA Plant as indicated in the Consent Decree. Lucite will conduct a performance test of the SEP demonstrating the reduction in emissions and submit plans for this test to EPA for approval.

Figure 1 provides a simplified schematic view of the SEP configuration and routing. As depicted, the M-1 and LBS vent streams will be combined with a small purge of natural gas and taken to a new liquid knock-out pot. This will be located near the Afterboiler and will drain to the suction of the Afterboiler condenser pumps or other suitable location. The new knock-out pot is required because there is currently no facility to separate liquid from the amide vent. From there a 6 inch, electric-traced, insulated line will run to the SAR Furnaces on existing pipe bridges. At the Furnaces, it will split with the flow to each Furnace being measured. The vent gas to each Furnace will then branch into three lines, one to each burner. Each will be provided with appropriate instrumentation to satisfy National Fire Protection Agency (NFPA) requirements for furnace fuel supply. Due to the presence of oxygen, a flame arrestor with temperature detection will be provided in the vent gas line as it enters each burner.

In order to get the vent gases into the furnaces, MMA Plant operating pressures must be increased. Lucite and/or contractors will investigate effects of higher pressure on the MMA process. It may be necessary to install a blower to boost the pressure of some of the vent streams or some other means to mitigate the pressure increase in the MMA Plant.

Preliminary Specifications/Scope:

- Tie-in to the vent streams downstream from where the Amide Reactors, Amide Converter and Afterboiler Condenser, currently routed to the M-1 Stack. Provide automatic valves to permit diversion of the vents back to the current vent lines upon shutdown of SAR or a shutdown or interlock trip in MMA.
- Tie-in to the LBS vent line downstream of the vent flow meter in the line between the Cyclone Separator and the Flare knock-out drum. Provide automatic valves to permit diversion of the LBS vent back to the current vent line upon shutdown of SAR or a shutdown or interlock trip in monomer.
- Provide a natural gas purge downstream of the LBS vent tie-in point. Provide pressure regulator, transmitting flow meter, and flow control valve. Tie-in to existing gas line to Flare.
- Provide a liquid knock-out pot about 3 ft diameter x 4 ft high. Locate near the Afterboiler so that any liquid drain will connect to suction of Afterboiler condenser pumps where it will be returned to the No. 1 Esterifier. To ensure the tank drain stays clear, provide a methanol supply for a 1 gallon/minute purge with a field reading rotameter. Provide tank pressure transmitter.
- Provide approximately 500 ft of 6 inch heat-traced, insulated piping from the knock-out pot to the SAR Furnace area.
- Verify that the existing pipe bridges will carry the added load and if not then provide new support or reinforce the pipe bridge for this pipeline.
- At the Furnace area, split the vent line into two lines, one to each Furnace. Provide a transmitting flow meter and control valve for the vent gas line to each furnace.
- For each Furnace, split the 6 inch line into three 4 inch lines, one to each burner. Provide automatic block-bleed-block valves and other instrumentation as required to satisfy NFPA burner management interlock requirements for a furnace fuel supply.
- Provide a flame arrestor in each 4 inch line as close as possible to the burner. Provide a temperature transmitter at the burner side face of each flame arrestor. This is to permit detection of a flame on the face of the arrestor.
- Provide burners that are capable of co-feeding vent gas and natural gas. Investigate modification of the existing burners by replacing the unused fuel oil tube with a larger one for vent gas. If not feasible, then purchase and install 6 new burners that are suitable for co-feed and duplicate the Beaumont MMA plant design and materials of construction.
- Evaluate the added stress that the weight of the new vent piping arrangement at each burner will place on the Furnace wall and brick work. Also evaluate the space that will be left for personnel access at each burner. Provide recommendations for all new burner platforms supported from the ground instead of the Furnace wall to improve Furnace life and provide adequate access space.
- Confirm that the pressure available in the MMA process will be adequate for pushing the vent streams into new or modified SAR burners with economically sized piping and valves. If not, then evaluate other means such as blowers and natural gas eductors.

- Connect all new transmitters to the existing Honeywell Distributed Control System (DCS). Site personnel will modify the SAR control logic to accommodate both vent gas and natural gas. Site personnel will evaluate capacity of existing DCS and if needed a DCS expansion will be included.
- Connect all vent gas burner management signals to the SAR furnace Programmable Logic Controller (PLC). Site personnel will provide all PLC programming. Site personnel will evaluate capacity of existing PLC and if needed a PLC expansion or replacement will be included.
- Site personnel will modify appropriate area alarm and interlock settings in the DCS and PLC to permit higher operating pressures in MMA.
- A complete set of up to date Process & Instrument Diagrams (P&IDs), instrument loop sheets and electrical schematic drawings will be produced for the new facilities for compliance with Process Safety Management (PSM) and Lucite Manufacturing Excellence Element 4.3.1.
- All new trips and interlocks will be designed for Lucite Asset Integrity Procedures (AIP's) and NFPA compliance. All existing furnace burner management trips and interlocks will be evaluated for compliance with Lucite AIP's and NFPA standards and revisions will be made to bring any deficiencies found into compliance.

Schedule for Construction:

- | | |
|---------------------|-------------------------------------|
| • May 31, 2005 | Engineering Start |
| • October 31, 2005 | Pre-Shutdown Construction Start |
| • April 30, 2006 | Shutdown Tie-ins Start |
| • May 31, 2006 | Shutdown Tie-ins Complete |
| • August 15, 2006 | Construction Complete/Commissioning |
| • August 31, 2006 | Commence Operation |
| • October 15, 2006 | Compliance Test Plans to EPA |
| • November 30, 2006 | Compliance Testing |
| • January 15, 2007 | SEP Completion Report Due |

Figure 1
Monomer Vent Gas to SAR Furnace

